

Power BI Assignment 2 – DAX & Data Visualization

Calculated Columns:

1. Create a Calculated Column for 'Category Type': Add a calculated column in the Order Details table that combines the 'Category' and 'Sub-Category' columns into a single 'Category Type' column.

The screenshot shows the Power BI Data view. On the left is a table with columns: Order ID, Amount, Profit, Quantity, Category, Sub-Category, and Category Type (which is highlighted in green). The table contains 18 rows of data. On the right is a pane titled 'Data' with a search bar and a list of available measures and columns. The 'Category Type' measure is selected, indicated by a green border around its row. Other items in the list include 'List of Orders (1)', 'Order Details (1)', 'Amount', 'Category', 'Order ID', 'Profit', 'Quantity', 'Sub-Category', and 'Sales target (1)'. The formula for 'Category Type' is displayed at the top: `1 Category Type = 'Order Details (1)'[Category]&" " &'Order Details (1)'[Sub-Category]`.

2. Calculate Revenue per Order in Order Details Table: Create a calculated column in the Order Details table to compute the revenue (Amount * Quantity) per order.

The screenshot shows the Power BI Data view. On the left is a table with columns: Order ID, Amount, Profit, Quantity, Category, Sub-Category, Category Type, and Revenue (which is highlighted in green). The table contains 18 rows of data. On the right is a pane titled 'Data' with a search bar and a list of available measures and columns. The 'Revenue' measure is selected, indicated by a green border around its row. Other items in the list include 'List of Orders (1)', 'Order Details (1)', 'Amount', 'Category', 'Order ID', 'Profit', 'Quantity', 'Sub-Category', and 'Sales target (1)'. The formula for 'Revenue' is displayed at the top: `1 Revenue = 'Order Details (1)'[Amount]*'Order Details (1)'[Quantity]`.

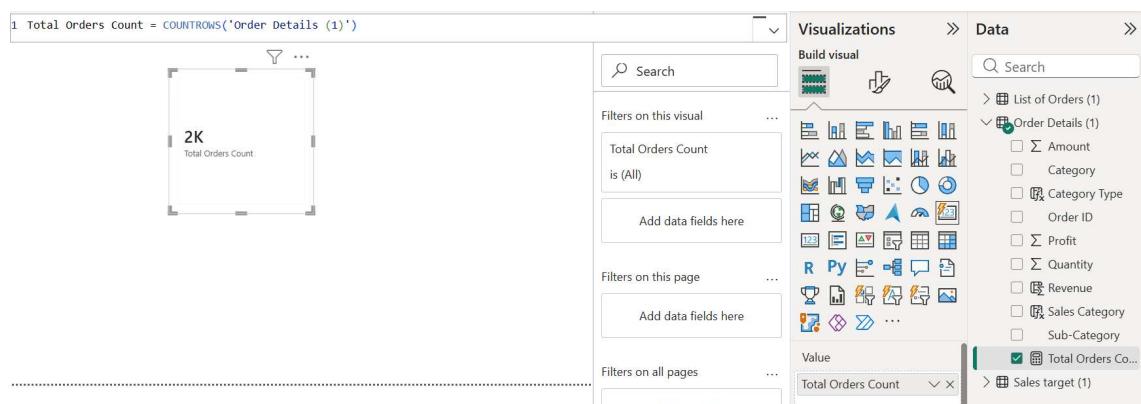
3. Create a Calculated Column to Categorize Sales: Add a calculated column named 'Sales Category' in the Order Details table that categorizes each order as 'Above Average' or 'Below Average' based on the Amount value.

The screenshot shows the Power BI Data view interface. On the left is a table with columns: Order ID, Amount, Profit, Quantity, Category, Sub-Category, Category Type, Revenue, and Sales Category. A formula bar at the top contains the DAX code: `1 Sales Category = IF('Order Details (1)'[Amount]>CALCULATE(AVERAGE('Order Details (1)'[Amount])), "Above Average", "Below Average")`. On the right is a Data pane with a search bar and a list of fields from the 'Order Details (1)' table, including Amount, Category, Category Type, Profit, Quantity, Revenue, and Sales Category.

Order ID	Amount	Profit	Quantity	Category	Sub-Category	Category Type	Revenue	Sales Category
B-25602	561	212	3	Clothing	Saree	Clothing Saree	1683	Below Average
B-25602	119	-5	8	Clothing	Saree	Clothing Saree	952	Below Average
B-25603	193	-166	3	Clothing	Saree	Clothing Saree	579	Below Average
B-25604	157	5	9	Clothing	Saree	Clothing Saree	1413	Below Average
B-25605	75	0	7	Clothing	Saree	Clothing Saree	525	Below Average
B-25609	25	-5	4	Clothing	Saree	Clothing Saree	101	Below Average
B-25610	43	0	3	Clothing	Saree	Clothing Saree	129	Below Average
B-25611	160	-59	2	Clothing	Saree	Clothing Saree	320	Below Average
B-25613	1603	0	9	Clothing	Saree	Clothing Saree	14427	Below Average
B-25619	353	90	8	Clothing	Saree	Clothing Saree	2824	Below Average
B-25622	534	0	3	Clothing	Saree	Clothing Saree	1602	Below Average
B-25623	149	-87	4	Clothing	Saree	Clothing Saree	591	Below Average
B-25625	635	-349	5	Clothing	Saree	Clothing Saree	3175	Below Average
B-25628	24	-9	4	Clothing	Saree	Clothing Saree	96	Below Average
B-25633	711	-8	4	Clothing	Saree	Clothing Saree	2844	Below Average
B-25635	382	30	3	Clothing	Saree	Clothing Saree	1146	Below Average
B-25636	637	113	5	Clothing	Saree	Clothing Saree	3185	Below Average
B-25640	122	-47	4	Clothing	Saree	Clothing Saree	488	Below Average

Calculated Measures:

1. Calculate Order Count: Define a measure to count the total number of orders in the Order Details table.



2.Calculate Average Profit in Delhi: Create a measure to calculate the average profit for orders placed in Delhi.

The screenshot shows the Power BI ribbon interface. The 'Filters' section on the left contains three boxes: 'Search', 'Filters on this page' (with 'Add data fields here'), and 'Filters on all pages' (with 'Add data fields here'). The 'Visualizations' section in the center has a 'Build visual' button and a grid of visualization icons. The 'Data' section on the right contains a search bar and a tree view of data sources. Under 'List of Orders (1)', 'Average Profit...' is selected. Under 'Order Details (1)', 'Σ Amount' is selected. Other items like 'City', 'CustomerName', 'Order Date', 'Order ID', 'State', 'Category', 'Category Type', and 'Order ID' are also listed.

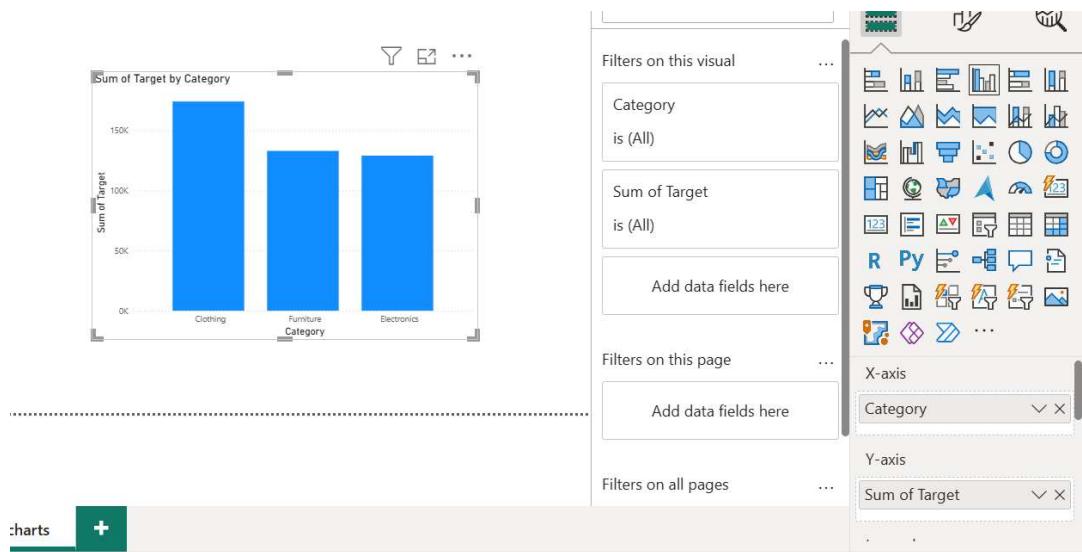
3.Calculate Year-to-Date (YTD) Sales: Define a measure to calculate the total sales amount accumulated from the earliest order date up to each order date.

The report card displays two measures: 'Total Orders Count' (2K) and 'Average Profit Delhi' (15.97). Below the measures is a table titled 'Sum of Amount' with columns: Sum of Amount, ytd sales, Year, Month, and Day. The table shows 14 rows of data for the year 2018, month January, and day 1 through 14. The last row of the table is highlighted in blue.

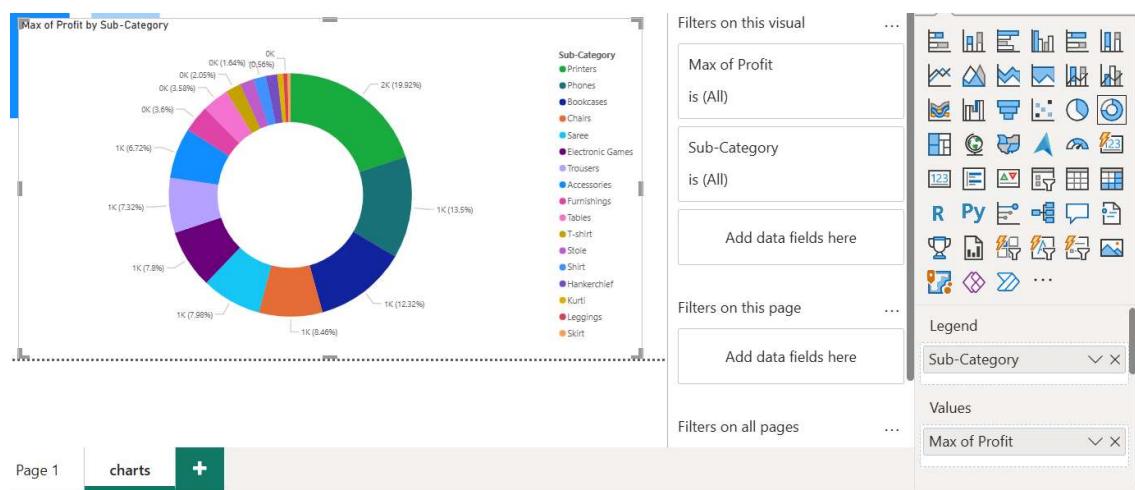
Sum of Amount	ytd sales	Year	Month	Day
431502	431502	2018	January	1
431502	431502	2018	January	2
431502	431502	2018	January	3
431502	431502	2018	January	4
431502	431502	2018	January	5
431502	431502	2018	January	6
431502	431502	2018	January	7
431502	431502	2018	January	8
431502	431502	2018	January	9
431502	431502	2018	January	10
431502	431502	2018	January	11
431502	431502	2018	January	12
431502	431502	2018	January	13
431502	431502	2018	January	14
431502	431502			

Data Visualization:

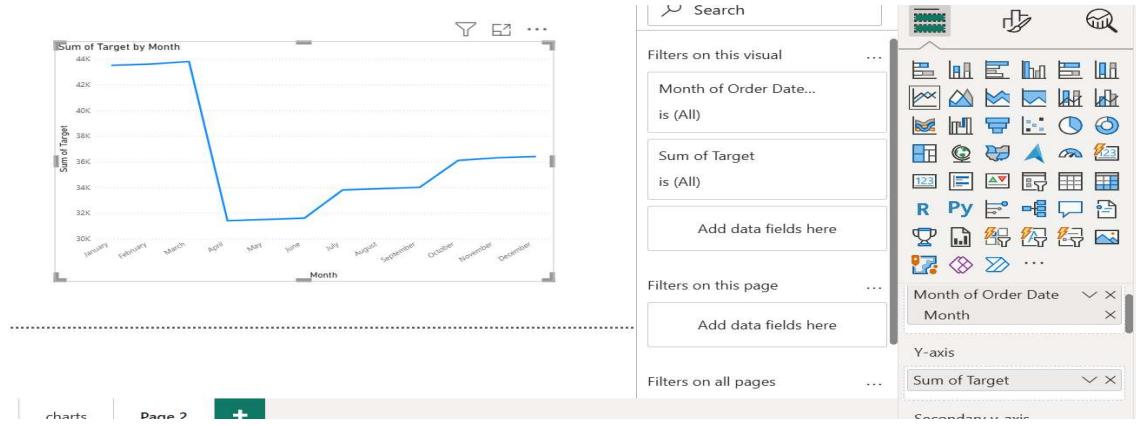
1. Sales Target Achievement by Category: Compare actual sales with sales targets by category using a clustered column chart.



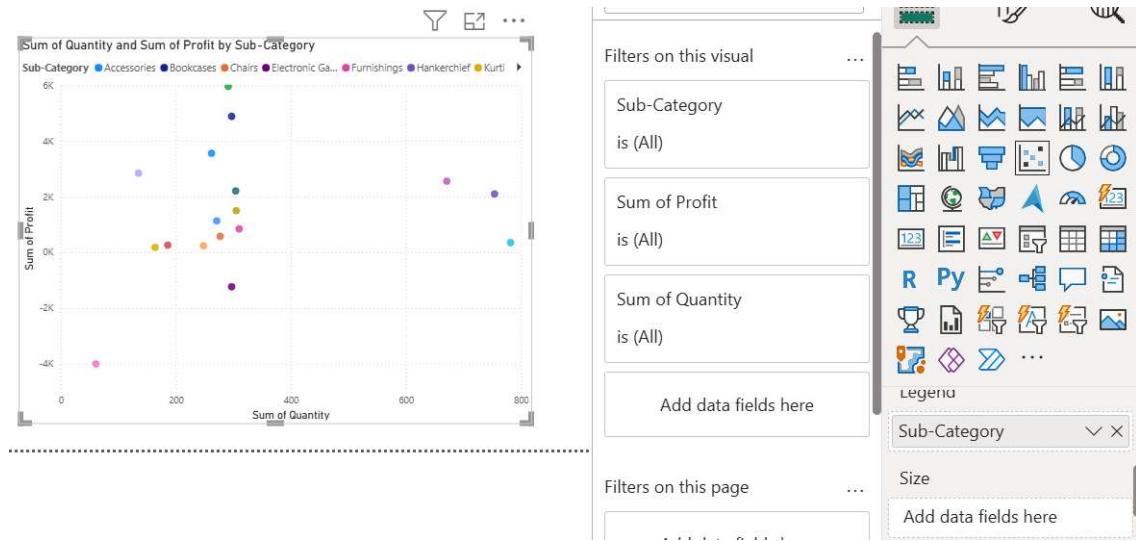
2. Max Profit Margin by Sub-Category: Analyze the maximum profit margin for each sub-category of products using a donut chart.



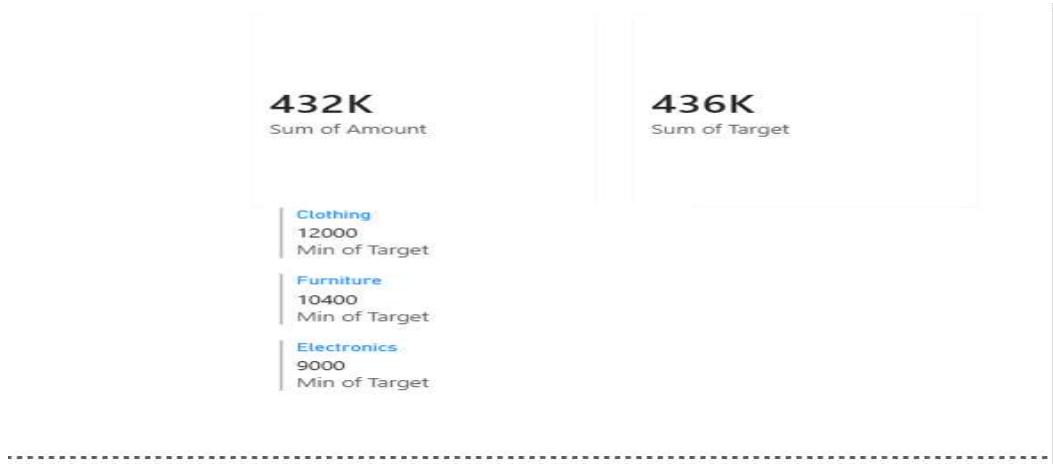
3. Monthly Sales Trend: Show the trend of monthly sales over time using a line chart.



4. Comparison of Profit and Quantity by Sub-Category: Compare the relationship between profit and quantity sold for different sub-categories using a scatter chart.



5. Comparison of Total Sales Amount and Target: Create cards to succinctly display the total sales amount alongside the sales target for quick comparison and analysis. Also, create a multi-row card to display the minimum target for each segment.

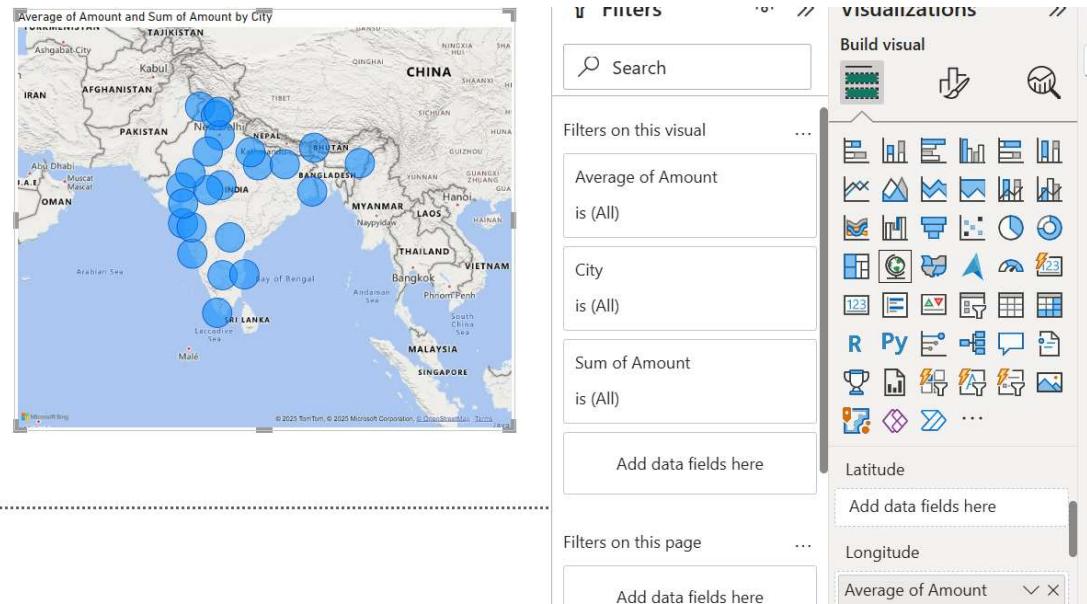


6. Sales Performance Matrix: Build a matrix view to analyze how actual sales compare to sales targets across different categories and months.

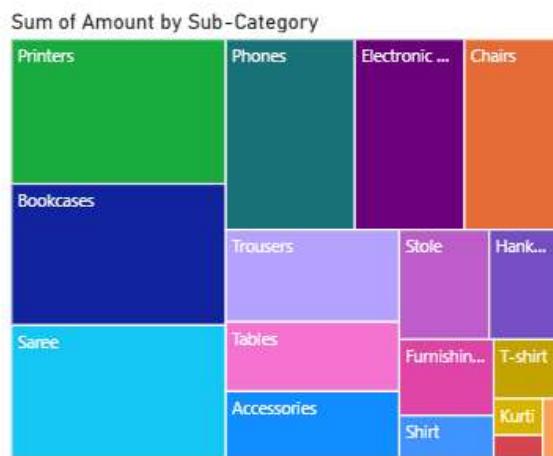
The matrix visual displays sales data by Month (January to December) and Category (Clothing, Electronics, Furniture). The columns represent the categories, and the rows represent the months. The 'Total' column provides the sum of sales for each month. The matrix also includes a 'Sum of Target' column for each month, allowing for a direct comparison between actual sales and target values.

Month	Clothing	Electronics	Furniture	Total	Sum of Target
January	16000	16000	11500	43500	33800
February	16000	16000	11600	43600	33900
March	16000	16000	11800	43800	34000
April	12000	9000	10400	31400	31100
May	12000	9000	10500	31500	31000
June	12000	9000	10600	31600	31300
July	14000	9000	10800	33800	33600
August	14000	9000	10900	33900	33700
September	14000	9000	11000	34000	33800
October	16000	9000	11100	36100	35900
November	16000	9000	11300	36300	36100
December	16000	9000	11400	36400	36200
Total	174000	129000	132900	435900	364000

7. Geographic Sales Analysis: Visualize total sales on a map by city to identify regional sales patterns.



8. Sales Distribution by Sub-Category: Represent the sales distribution across different sub-categories using a treemap.



9. Order Count Analysis by State: Create a funnel chart to visualize the distribution of order counts across different states.

